COMMONWEALTH of VIRGINIA

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November 18, 2010

U. S. Environmental Protection Agency
Mail code: 5305T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Virginia Department of Environmental Quality's Comments on EPA Proposed Rule Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities (Docket ID No. EPA HQ-RCRA-2009-0640)

Dear Sir or Madam:

On behalf of the Virginia Department of Environmental Quality (DEQ), I appreciate this opportunity to provide comments on EPA's proposed regulations related to the management and disposal of coal combustion residues (CCRs). At the outset, you should note that Virginia DEQ continues to believe that, with respect to the dry handling of CCRs, these proposed regulations are unnecessary and EPA does not need to promulgate new CCR regulations under either Subtitle C or D. These regulations will adversely impact proven state regulatory programs such as the one in Virginia. At most, if after further consideration EPA continues to believe that a Federal input is necessary, then it should do so in the form of guidance that can be used as a tool by the states to better their rules and regulations to ensure further protection of human health and the environment. As proposed, these regulations will significantly impact the Commonwealth of Virginia in many ways regardless of whether EPA decides to regulate CCR disposal under either Subtitle C or Subtitle D. Therefore, if this regulatory action is pursued, Virginia DEQ recommends that changes to both of the proposed options are necessary to avoid unintended adverse impacts to our state's regulatory programs, private businesses, and human health and the environment.

This letter provides an overview of Virginia DEQ's comments on and concerns with the proposed regulation along with recommendations for EPA's consideration. Detailed comments providing information specifically requested by EPA as well as recommended revisions to EPA's proposed regulatory language and an overview of Virginia's CCR management program are attached (**see Attachment A**).

Virginia DEQ's General Comments on Subtitle C Proposal:

Virginia DEQ maintains its position that CCR regulation under the authorities of RCRA Subtitle C is overly burdensome and we do not support EPA's proposal to regulate CCRs as a "special" hazardous waste. CCRs are **not** hazardous wastes, even without consideration of the Bevill exclusions. CCRs do not fail EPA's toxicity benchmark test, the TCLP. EPA's remarks that TCLP may not be a good predictor are flawed; if the TCLP is not a good predictor, then EPA should be taking action to amend the TCLP analysis for determining whether a solid waste is a toxic hazardous waste. EPA is not doing so because the TCLP is a good predictor and EPA's proposal to regulate CCRs as a new listing under "special" hazardous waste makes this clear as EPA had to create a new way to handle this non-hazardous waste under the Subtitle C authorities.

Virginia DEQ again urges EPA to fully consider the repercussions of this special hazardous waste proposal for CCRs. How will states, already strained by budgetary cutbacks, deal with the fiscal impacts and permitting burden of such regulation? Fees are not an "easy" answer for many states, including Virginia, as fees require legislative action. How will the lack of hazardous waste disposal capacity be addressed especially considering the millions of additional tons of CCRs that would have otherwise been used, reused, or recycled and which will now need to be disposed of as a hazardous waste?

EPA has continually reviewed the Bevill exemptions for CCRs and Virginia DEQ strongly encourages EPA to maintain the Bevill exemptions for all types of CCRs. States should be allowed to take the lead in regulating the disposal of CCRs rather than being required to regulate CCRs as “special” hazardous waste under Subtitle C, because it is the states that have the most expertise in dealing with solid waste management issues.

For these reasons and others that are further vetted in Attachment A, Virginia DEQ has been and continues to be strongly opposed to regulation of CCRs as hazardous waste, special or otherwise. EPA's concerns regarding their oversight ability should be addressed through the authorities of §7003 of RCRA or through other mechanisms including congressional action.

Virginia DEQ's General Comments on Subtitle D Proposal:

Virginia DEQ does not fully support EPA's proposal to regulate CCRs under the authorities of RCRA Subtitle D. While the Subtitle D regulatory approach is greatly preferred over the Subtitle C proposal, there are issues that need further consideration if the Subtitle D approach is pursued by EPA. The general concern is that the proposed regulations do not provide states with enough flexibility regarding CCR management or disposal options. Many states, like Virginia, have a long history of dealing with industrial solid waste. TThe regulations need to be flexible enough to allow states to use equivalent alternatives rather than a specific "standard" as necessary and appropriate. This would include allowing states to evaluate and approve alternate liner and cover designs. The prescriptive one-size-fits-all approach is overly burdensome and unnecessary in areas where local conditions provide an equivalent degree of protection.

As noted above, Virginia DEQ continues to believe that EPA does not need to promulgate new CCR regulations under either Subtitle C or D. These regulations will adversely impact proven state regulatory programs such as the one in Virginia. At most, if a federal

program is necessary, then it should be in the form of guidance that can be used as a tool by the states to better their rules and regulations to ensure further protection of human health and the environment.

Virginia DEQ's General Comments on Beneficial Use:

Defining CCR as hazardous waste will eliminate or drastically reduce its beneficial use potential in addition to reducing the significant environmental benefits of recycling CCR and the jobs associated with this market. EPA has identified no environmental benefit to defining CCR as hazardous waste; indeed, the only reason for this proposal is to arguably clarify EPA's enforcement authority. This "benefit" does not justify the risk of adverse impacts to CCR reuse and recycling. The damage to environmentally sound CCR beneficial use that a special hazardous waste designation will cause would be irreparable.

Virginia DEQ's Regulatory Requirements:

In Virginia, CCRs are regulated as a solid waste under our state authorities and this material is treated in a likewise manner as other industrial non-hazardous solid wastes. Virginia's regulations require an extensive permitting process for facilities that treat, store, or dispose of solid wastes. Beneficial uses also require review and approval prior to implementation.

Virginia's regulations require the proper management of solid wastes, such as CCRs, in order to prevent adverse impacts on human health or the environment. These regulations provide requirements for CCR management as a solid waste, including appropriate criteria for disposal units and provide allowances for beneficial reuse in a manner that is protective of human health and the environment. Virginia, like many states, has a strong and established solid waste management program. Virginia's statutory law under the Virginia Waste Management Act includes enforcement authorities, as was demonstrated to EPA when we obtained approval for our municipal solid waste (MSW) program (a RCRA Subtitle D program). This approach has been successful for regulation of MSW and is significant proof that the states have the ability to regulate solid waste within their jurisdiction.

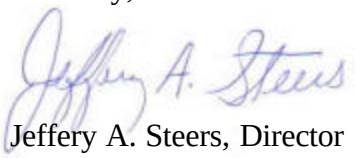
Virginia DEQ's Recommendations:

States are best equipped to make beneficial use determinations for CCRs, whether the uses are for construction, manufacturing, or other applications. Virginia DEQ continues to stress the importance for EPA to thoroughly examine existing CCR disposal permitting and beneficial use programs in Virginia and other states before concluding that a broad overhaul is needed as opposed to formalized proper recognition and approval of state programs which has proven successful for the management of MSW. EPA's resources would be better served by providing technical guidance to states and assisting with emerging issues like the potential for changes to the composition of CCRs with the improvements in new air pollution control technologies.

In summary, we believe the best approach to regulating CCR nationally is to develop a program that can be administered by states with existing resources. Preferably such approach would be through Federal guidance to help the states ensure that their programs are consistently protective of human health and the environment. If, after further reflection, EPA determines that a regulatory approach is necessary, they EPA should be guided by the approach that was taken in the MSW program under RCRA Subtitle D bearing in mind that sufficient flexibility would be necessary to ensure appropriate consideration of local conditions as they relate to the design of liners, leachate management, and final covers. Additionally, the states should continue to administer the beneficial use program and be the decision-makers on beneficial use of CCR and other solid wastes within their borders.

Thank you for your time and consideration of our comments. If you have any questions or need further clarification, please contact me at 804-698-4079 or Jeffery.Steers@deq.virginia.gov.

Sincerely,



Jeffery A. Steers, Director
Waste Division

cc: James Golden, DEQ Deputy Director
Angie Jenkins, Policy Director

Attachment

Specific Comments on the Proposed Regulations

The following are Virginia DEQ's comments on the proposed regulatory language and suggested revisions to that language.

SUBTITLE C OPTION:

As previously set forth in numerous correspondence and comments, CCRs should not be regulated under RCRA subtitle C and Virginia DEQ continues to respectfully request that EPA not pursue its proposal to regulate CCRs as a hazardous waste under its RCRA Subtitle C authorities and its regulations of 40 CFR Parts 261, 264, 265, 268, and 270. Regulation of CCRs as a hazardous waste will have major adverse impacts on Virginia, including:

- Virginia's state law currently prohibits the issuance of permits for off-site hazardous waste disposal facilities under Subtitle C without a certificate of siting issued by the Virginia Waste Management Board. Since the adoption of this statutory requirement in 1984, no off site facility has been able to secure such a certificate and currently no hazardous disposal facility exists in Virginia.
- As Virginia does not have any hazardous waste disposal capacity and due to the complexities of our state statutory laws, if EPA chooses the Subtitle C approach, all CCRs generated in Virginia will be required to be shipped out of state and likely will result in significant adverse economic impacts and will significantly increase the risk of significant adverse environmental impacts.
- The adverse impacts to beneficial use of CCRs, regardless of efforts to the contrary, will be substantial due to public perception and the stigma that will be attached if CCRs are unnecessarily deemed special hazardous waste.
- Budgetary impacts to state programs will be considerable. In Virginia that estimate is an additional $350,000 per year to support the regulatory, permitting and inspection programs. This additional impact to budgets cannot be addressed solely through the suggested "fees".

Virginia DEQ does not believe that the strict environmental standards of Subtitle C are needed to provide adequate protection of human health and the environment as related to CCR management. EPA has proven success with its implementation of the municipal solid waste landfill (MSW) program and the associated state approval program. If EPA wishes to continue to pursue regulatory action, it should examine the best means for effectively implementing a similar program for CCR. Many states properly manage CCRs under state laws and regulations which are substantively equivalent to the federal Subtitle D standards, and these successful programs should be evaluated and encouraged.

Through its discussion of its proposal, EPA suggests that the Federal government does not believe that states have the ability or desire to enforce this nation’s solid waste laws. By invoking its Subtitle C authorities, EPA states that it can retain and assert appropriate enforcement authority. Virginia DEQ has consistently demonstrated the ability to conduct an effective and comprehensive RCRA program including a successful compliance and enforcement history, as is illustrated by EPA’s own feedback during the State Review

Framework process. Further, EPA already has broad enforcement authority under RCRA §7003 to address potential substantial threats or endangerment to human health and the environment for releases of solid waste. Although EPA asserts that the enforcement provisions under the Subtitle C option will provide EPA with more enforcement authority than under the Subtitle D option, Virginia DEQ cautions EPA to examine all options and consider potential changes that may enhance the proposal. EPA should consider seeking congressional assistance to provide for greater enforcement authorities under the provisions of the RCRA Subtitle D rather than try to regulate CCRs under the Subtitle C option.

SUBTITLE D OPTION:

The Subtitle D proposal, while infinitely more reasonable then the Subtitle C proposal, is not without concern. The main concern is the lack of flexibility and the budget impacts to implement this program if this Subtitle D option is pursued. The proposed regulations do not provide states with enough flexibility regarding CCR management or disposal options. Additionally, states seeking approval of their CCR program will have to consider the impacts to their budgets due to the regulatory and permitting burden that will ensue. These budgetary impacts, while considerably less than those under the Subtitle C option, are still significant especially during this time of shrinking state funds and, therefore, cannot be ignored. These costs must be considered and Virginia DEQ recommends that EPA more fully evaluate these impacts and consider the work done by EPA and ECOS on the cost of rules implementation.

Based on the proposed regulatory language for the Subtitle D option, Virginia DEQ suggests the following revisions to provide for clarity and flexibility. These revisions and comments are in italicized text following the proposed EPA language.

Location Restrictions

Section 257.60 Proposed Rule

Sec. 257.60 Placement above the natural water table.

(a) New CCR landfills and new CCR surface impoundments and lateral expansions must be constructed with a base that is located a minimum of two feet above the upper limit of the natural water table.

(b) For purposes of this section, natural water table means the natural level at which water stands in a shallow well open along its length and penetrating the surficial deposits just deeply enough to encounter standing water at the bottom. This level is uninfluenced by groundwater pumping or other engineered activities.

This proposed language is confusing. We believe that the maximum seasonal high water table is a threshold that can be measured through indicators such as soil morphology or field measurements and the use of the maximum seasonal high water table is an appropriate measure of the upper limit of the natural water table. We request this section to be modified to read as follows:

Sec. 257.40- include a new term and definition- "Maximum seasonal water table" means the highest level of a saturated zone (the apparent or perched water table) over a continuous period of more than two weeks in most years, but not a permanent water table.

Sec. 257.60 Placement above the uppermost aquifer.
New CCR landfills and new CCR surface impoundments and lateral expansions must be constructed with a base that is located a minimum of two feet above the maximum seasonal water table as defined in proposed regulation 257.40 and certified by a qualified groundwater scientist, professional geologist, or professional engineer.

Design Criteria

Section 257.70 Proposed Rule

Sec. 257.70 Design criteria for new CCR landfills and lateral expansions.

(a) New CCR landfills and lateral expansions of CCR landfills shall be constructed:

(1) With a composite liner, as defined in paragraph (a)(2) of this section and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner. The design of the composite liner and leachate collection system must be prepared by, or under the direction of, and certified by an independent registered, professional engineer.

(2) For purposes of this section, composite liner means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

(3) For purpose of this section, hydraulic conductivity means the rate at which water can move through a permeable medium. (i.e., the coefficient of permeability).

(b) [Reserved]

This proposed language is restrictive and would not allow designs which can be equally protective of groundwater and surface water. Other alternate liners have been used successfully throughout the country and provisions to allow alternate liners need to be incorporated. A composite Subtitle D liner is clearly not needed to protect groundwater or surface water in all geologic and climatic scenarios. States should have the flexibility to review and approve alternative liner designs that will provide adequate protection as allowed under part 258 for sanitary landfills. Therefore, we request that paragraph (a) (1) of this section be modified to allow alternate designs as follows:

1) With a composite liner, as defined in paragraph (a) (2) of this section and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner or an alternate design approved by the Director of an approved State that demonstrates that leachate will be contained

or managed in a manner that is protective of groundwater and surface water. The design of the composite liner and leachate collection system must be prepared by, or under the direction of, and certified by an independent registered, professional engineer. (Proposed change underlined)

Section 257.71 Proposed Rule

Sec. 257.71 Design criteria for existing CCR surface impoundments.

(a) No later than [five years after effective date of final rule] existing CCR surface impoundments shall be constructed:

(1) With a composite liner, as defined in paragraph (a) (2) of this section and a leachate collection system between the upper and lower components of the composite liner. The design shall be in accordance with a design prepared by, or under the direction of, and certified by an independent registered professional engineer.

(2) For purposes of this section, composite liner means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane line (FML), and the lower component must consist of at least two-foot layer of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

(3) For purposes of this section, hydraulic conductivity means the rate at which water can move through a permeable medium (i.e., the coefficient of permeability).

When permitted designs call for composite liners, we must assure good composite action by requiring intimate and uniform contact between the FML component and the compacted soil component. Introduction of a leachate collection system between the two components of the composite liner system defeats the effectiveness of the composite liner. First, a composite liner is two liners in intimate contact with one another. The proposal is not that of a composite liner but of a double liner with a leak detection system. EPA is urged to reconsider what type of liner is to be used and to properly describe it. Virgina DEQ requests that paragraph (a) (1) of this section be modified to read as follows (changes suggested are underlined):

(1) With a composite liner, as defined in paragraph (a) (2) of this section and a leachate collection system above the upper component of the composite liner. The design shall be in accordance with a design prepared by, or under the direction of, a registered professional engineer and these plans shall be certified by an independent registered professional engineer.

Section 257.72 Proposed Rule

Sec. 257.72 Design criteria for new CCR surface impoundments and lateral expansions.

(a) New CCR surface impoundments and lateral expansions of CCR landfills or surface impoundments shall be constructed:

(1) With a composite liner, as defined in paragraph (a) (2) of this section and a leachate collection system between the upper and lower components of the composite liner. The

design of the composite liner and leachate collection system must be prepared by, or under the direction of, and certified by an independent registered, professional engineer.

(2) For purposes of this section, composite liner means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

When permitted designs call for composite liners, we assure good composite action by requiring intimate and uniform contact between the FML component and the compacted soil component. We believe that the introduction of the leachate collection system between the two components of the composite liner would defeat the composite action. Virginia DEQ requests paragraph (a) (1) of this section be modified to read as follows (changes suggested are underlined):.

> *(1) With a composite liner, as defined in paragraph (a) (2) of this section and a leachate collection system above the upper component of the composite liner. The design shall be in accordance with a design prepared by, or under the direction of, a registered engineer and shall be certified by an independent registered professional engineer.*

Closure Criteria

Section 257.100 Proposed Rule

(c) At closure, the owner or operator of a surface impoundment must:

(1) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(2) Stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and

(3) Cover the surface impoundment with a final cover designed and constructed to:

(I) provide long-term minimization of the migration of liquids through the closed impoundment;

(ii) Function with minimum maintenance; and

(iii) Promote drainage and minimize erosion or abrasion of the cover;

(iv) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(v) Have a final cover system that meets the requirements of subsection (d).

Paragraph (d) of this section prescribes one cover design option and paragraph (e) authorizes an alternative final cover design. Therefore we request that paragraph (c) (v) be modified as follows (changes requested are underlined):

> *(v) Have a final cover system that meets the requirements of subsection (d) or (e).*

Virginia DEQ's Response to EPA's Request for Comments on Specific Areas

In the preamble to EPA's Proposed Rule on "Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities" (Docket ID No. EPA HQ-RCRA-2009-0640), EPA identified many issues for which it is soliciting comment along with supporting information and data. The major issues on which comments with supporting information and data are requested are listed below with Virginia DEQ's response to the comment noted in *italics.*

Management of CCRs

- Whether regulatory approaches should be established individually for the four Bevill CCR wastes (fly ash, bottom ash, boiler slag, and FGD sludges) when destined for disposal.

Virginia DEQ continues to believe that the Bevill exclusion should remain in effect for all CCR wastes as it has for many years and has been affirmed and supported by EPA in the past. However, if EPA seeks to unnecessarily regulate disposal of CCR wastes, then such regulation should be confined to only the waste that appears of most concern to EPA, fly ash.

- The regulatory approaches proposed in the notice and the alternative approaches EPA is considering as discussed in Section XIII of the preamble.

Section XIII describes alternative ways to regulate CCR. Virginia DEQ believes that EPA should consider establishing different standards for wet storage and dry storage of CCR. For example, in section XIII of the preamble of the rule, EPA discussed the possibility of regulating wet storage under Subtitle C and dry management under Subtitle D due to the different risks associated with surface impoundments, and the differences between the physical and chemical mobility of wet vs. dry CCRs. Virginia DEQ believes that this type of approach is one that EPA should carefully research. Regulation of the different handling methods under different authorities will lead to legal issues and is confusing. It is the characteristics of the waste material that should determine the regulatory scheme .

Establishing guidances concerning these different management options would provide more flexibility in the proper management of CCRs and will do so in a manner that is protective of human health and the environment without an adverse and substantial additional cost burden to the states.

EPA has also stated that the enforcement provisions under the Subtitle C option provide EPA with more enforcement authority than under the Subtitle D option. Virginia DEQ urges EPA to do their due diligence and examine all options and consider potential changes that may enhance the proposal. EPA should consider seeking from Congress greater enforcement authority under the provisions of the Subtitle D program if that is a factor that is driving EPA to pursue regulating CCRs under the Subtitle C option. This would allow EPA the option to further regulate CCRs without being required to label

CCRs as hazardous waste; thereby, eliminating concerns associated with beneficially using a hazardous waste.

- The Agency has documented, through proven damage cases and risk analyses, that the wet handling of CCRs in surface impoundments poses higher risks to human health and the environment than the dry handling of CCRs in landfills. EPA seeks comments on the standards proposed in this notice to protect human health and the environment from the wet handling of CCRs. For example, in light of the TVA Kingston, Tennessee, and the Martins Creek, Pennsylvania CCR impoundment failures, should the Agency require that owners or operators of existing and new CCR surface impoundments submit emergency response plans to the regulatory authority if wet handling of CCRs is practiced?

Emergency response plans are a necessary component for the safe management of any waste and Virginia DEQ agrees that owners or operators of CCR surface impoundments should have such plans in place in the event of an emergency situation. Permitted solid waste facilities in Virginia are required to have an emergency contingency plan and to have arrangements with local police and fire departments.

- The degree to which coal refuse management practices have changed and the impacts of those changes or, for example, groundwater monitoring and the use of liners.

Virginia DEQ has a very strong and established solid waste regulatory program, as our EPA approved MSW permit program attests to, and has successfully regulated the management of coal ash as industrial waste under our laws and regulations. Coal ash is a solid waste and, as such, is treated in a likewise manner as other industrial solid wastes. The Virginia Solid Waste Management Regulations provide requirements for CCR management, including appropriate criteria for disposal units, and allow for its beneficial reuse in a manner that is protective of human health and the environment. In 2009, Virginia DEQ began working with stakeholders to revise Virginia's Coal Combustion Byproduct Regulations. Potential revisions to these regulations include additional protections that would be more protective of human health and the environment. The regulatory revisions being considered include:

- *Inclusion of a maximum amount of fill material that could be beneficially used at a site under the Coal Combustion Byproduct Regulations.*
- *Development of a risk based approach to regulating CCR sites, based on size, with different requirements concerning groundwater monitoring and review of the information submitted.*
- *Revisions to setback requirements to be more consistent with the siting requirements of landfills.*
- *Inclusion of a prohibition of creating ponds in the CCR fill areas.*
- *Addition of a requirement for a hydrogeologic and geotechnical report to be prepared for the site which provides more documentation concerning the subsurface conditions, including the seasonally high water table.*
- *Addition of operational requirements to address dust control requirements, compaction requirements, the maximum size of the fill area that can be open at one time, the placement of soil after 60 days of not receiving CCR and cleanout requirements for sedimentation ponds.*

- *Additional closure requirements were discussed. Capping of the site will occur using one of three options specified in the regulations. There are limits on disturbing the cap and final cover must be maintained on the site.*
- *Groundwater monitoring would be required for larger sites.*
- *Public notification/participation would be required, through posting of a sign on the site, similar to a zoning sign, advising the public of the activity.*

The changes to the regulations listed above have been discussed with stakeholders; however, DEQ has not moved forward with developing the proposed regulation for public comment. Due to EPA's impending regulatory action on CCRs, DEQ put on hold developing a proposal in December 2009 since EPA was scheduled to release a CCR proposal in December 2009. At this time, DEQ has not reinitiated this rulemaking process but once initiated DEQ believes that changes concerning the issues listed above will further strengthen Virginia's Coal Combustion By-Product Regulations concerning the use of unencapsulated CCRs as fill material.

Risk Assessment

- The screening analysis conducted to estimate risks from fugitive CCR dust; data from any ambient air monitoring for particulate matter that has been conducted; where air monitoring stations are located near CCR landfills or surface impoundments; and information on any techniques, such as wetting, compaction, or daily cover that are or can be employed to reduce such exposures.

When working with stakeholders to examine ways to revise Virginia's regulations, additional measures were identified to be included in the regulations concerning the control of dust from these sites. These measures included requiring compaction of coal ash to occur within 72 hours of placement, requiring sites to be developed in phases, with a maximum phase size of 15 acres and only two phases being active at one time, and the covering of fill sites with soil after 60 days of not receiving CCR. Additionally, surface wetting or surfactant agents would be required to be applied to the site to prevent fugitive dust. Additionally, Virginia DEQ controls fugitive dusts under our air regulatory programs. Landfills, like other construction activities, are required to adhere to these requirements.

- Information and data regarding the existence of drinking water wells that are down-gradient of CCR disposal units, any monitoring data that exists on those monitoring wells and the potential of these wells to be intercepted by surface water bodies.

The Virginia DEQ has monitoring data for monitoring wells at permitted landfills, including captive industrial landfills that are receiving CCRs. Groundwater monitoring is required in accordance with our state laws and regulations. However, it should be noted that EPA's request is confusing. Environmental monitoring wells are NOT drinking water wells, are usually constructed differently and lie within different aquifers. EPA should clarify what data they are looking to have provided, monitoring well data or down-gradient drinking water well data.

Liners

- Whether, in addition to the flexibility provided by section 3004(o)(2), regulations should also provide for alternative liner designs based on, for example, a specific performance standard, such as the performance standard in 40 CFR 258.40(a)(1), or a site specific risk assessment, or a standard that the alternative liner, such as a clay liner, was at least as effective as the composite liner.

The proposed language is unduly restrictive and would not allow designs which can be equally protective of groundwater and surface water. Other liner systems have been used successfully throughout the country. A composite Subtitle D liner is clearly not needed to protect groundwater or surface water in all geologic and climatic scenarios. States should have the flexibility to review and approve alternative liner designs that will provide adequate protection as allowed under part 258 for MSW landfills. Virginia DEQ has approved alternative liners to be used for our MSW sanitary landfills and has an established process for determining the adequacy of alternative liner proposals.

Beneficial Use

- The growth and maturation of state beneficial use programs and the growing recognition that the beneficial use of CCRs is a critical component in strategies to reduce GHG emissions taking into account the potentially changing composition of CCRs as a result of improved air pollution controls and the new science on metals leaching.

As air pollution control technology evolves, the composition of CCRs will change. Beneficial use programs need to retain flexibility to address the changes in CCR composition. Due to the need for flexibility, Virginia DEQ supports EPA continuing to evaluate the changing composition of CCR and developing guidance concerning applicable beneficial use applications based on the composition of CCRs and the management strategies for these beneficial uses. EPA's support of beneficial use is an essential component of the success of these programs.

- Information and data on the extent to which states request and evaluate CCR characterization data prior to the beneficial use of unencapsulated CCRs.

Virginia DEQ's beneficial use program requires testing of any solid waste prior to it being beneficially used. For CCR, this would require analysis in accordance with the TCLP. If the CCR exceeds any characteristic for hazardous toxicity per the results of the TCLP, it cannot be beneficially reused under our Coal Combustion Byproduct Regulations. Virginia DEQ has processed requests for the beneficial use of unencapsulated CCRs and has a set protocol on the testing of CCRs for such use. The diversified uses of materials under the beneficial use program in the state allow regulatory staff to evaluate each potential use scenario and request testing requirements to fit each scenario. CCRs are regularly tested for TCLP as described above. In addition to the analytical results, the following additional information must be provided under the Coal Combustion Byproduct Regulations:

1. A certification that the applicant has legal control over the site for the project life and the closure period;

2. A certification from the governing body of the county, city, or town in which the site is to be located that the location and operation of the CCR site are consistent with all applicable ordinances;
3. A general description of the intended use, reuse, or reclamation of CCR that includes the following:
a. A description of the nature, purpose and location of the fossil fuel combustion products site, including a topographic map showing the site area and available soils, and geological maps. The description shall include an explanation of how CCR will be stored prior to use, reuse or reclamation, if applicable;
b. The estimated beginning and ending dates for the operation;
c. An estimate of the volume of the CCR to be utilized; and
d. A description of the proposed type of CCR to be used, reused, or reclaimed, including physical and chemical characteristics of the CCR. The chemical description shall contain the results of TCLP analyses for the specified constituents. The description shall also contain a statement that the project will not manage CCR that fail the TCLP testing;
4. A certification by a professional engineer licensed to practice by the Commonwealth that the project meets the locational restrictions and setback requirements of the regulations;
5. A certificate signed by a professional engineer licensed to practice by the Commonwealth that the project has been designed in accordance with the standards of the regulations;
6. An operational plan;
7. A closure plan; and
8. A signed statement that the owner or operator shall allow authorized representatives of the Commonwealth, upon presentation of appropriate credentials, to have access to areas in which the activities covered by this chapter will be, are being, or have been conducted to ensure compliance.

- The appropriate means of characterizing beneficial uses that are both protective of human health and the environment and provide benefits. EPA is also requesting information and data demonstrating where the federal and state programs could improve on being environmentally protective and, where states have, or are developing, increasingly effective beneficial use programs.

The volume of beneficial use requests, including those involving CCRs, in the Commonwealth of Virginia taken in conjunction with the variability of the requests, has created a situation where a "one size fits all" approach to beneficial use requests is not feasible. The one predominate beneficial use request in Virginia is for civil engineering purposes, though the process for reviewing beneficial use requests begins the same for each case. The entity requesting the beneficial use determination must prove that 1) the material is not hazardous based on RCRA definitions and supporting analytical laboratory data (typically TCLP tests); 2) that the intended beneficial use is not a veil for disposal; and 3) that the beneficial use is a viable option for the material. If the beneficial use request passes these criteria, Virginia DEQ regulatory staff then examine the specific intended beneficial use and develops additional criteria and use restrictions to ensure reasonable human and environmental protection. For beneficial uses of CCRs

in a manner that is not provided under the Virginia Solid Waste Management Regulations, Virginia developed the Coal Combustion By-Product Regulations which standardized the necessary process and information needed for the use, reuse, or reclamation of CCRs. As noted previously, Virginia DEQ is currently undertaking a rulemaking process to amend these regulations in order to provide further environmental protections for the beneficial use of CCRs.

Given the above approach for evaluating and approving beneficial use requests, the state would be hesitant to create a more regimented protocol that would not allow each beneficial use request to be evaluated on its own set of unique circumstances. Additionally, CCR beneficial use requests are not required for "typical" applications, i.e. use of fly ash as a concrete admixture or use of bottom ash as sandblasting media. Forcing such approvals into a situation where staff must review each and every request, even for uses that have been considered standard by industry groups such as ASTM or ASCE, would cause undue burden to state regulatory staff already taxed by declining state budgets and workforce reductions and would fail to provide more protection to human health and the environment.

- Whether certain uses of CCRs (e.g., uses involving unencapsulated uses of CCRs) warrant tighter control and why such tighter control is necessary.

Virginia DEQ welcomes any guidance from EPA to be used as a tool to enhance our rules and regulations. As previously discussed, Virginia DEQ initiated a rulemaking process to amend our regulations regarding the use of unencapsulated CCRs, such as when used in general fill construction projects. This rulemaking was undertaken in an effort to further ensure our regulatory requirements provided further protection of human health and the environment for CCR beneficial use projects allowed under the regulation. These revised/additional requirements were listed in the previous section. As part of this effort, Virginia DEQ is considering implementing a more risk-based approach to regulating CCR in Virginia. This approach would be dependent on a site specific risk assessment based on site specific conditions that take into account the composition of CCRs, their leaching potential, geologic and hydrogeologic environment, volume, rate of application, the amount of CCR used at a site as fill material and the composition of CCRs. Under this risk-based approach, larger sites would be subject to more requirements, such as groundwater monitoring.

- If EPA determines that regulations are needed for the beneficial use of CCRs, should EPA consider removing the Bevill exemption for such uses and regulate these uses under RCRA subtitle C, develop regulations under RCRA subtitle D or some other statutory authority, such as under the Toxic Substances Control Act?

Virginia DEQ does not believe that specific regulations regarding the beneficial use of CCRs. Many states have rigorous beneficial use programs which require review and approval. Therefore, Virginia DEQ recommends that beneficial uses of CCRs not be removed from the Bevill exemption. Virginia DEQ continues to support the Bevill exemption for all CCRs, whether managed as solid waste or beneficially used. CCRs are successfully beneficially used and those uses need to be supported. If further requirements are necessary for specific beneficial uses, then those should be addressed

through guidance by EPA, not regulatory action under RCRA Subtitle C or D, or other statutory authority. CCRs are a solid waste and each state should determine how to best manage these solid waste within their state borders. Virginia DEQ's solid waste management program has successfully done so over the years and opposes any changes to the status of CCRs destined for beneficial use.

As noted, Virginia DEQ recommends that guidance be developed and it would be helpful to ensure that CCRs are managed and used in an environmentally sound manner and Virginia DEQ urges EPA to work through organizations such as ASTSWMO to assist in the development of guidance.

- Whether it is necessary to define beneficial use better or develop detailed guidance on the beneficial use of CCRs to ensure protection of human health and the environment, including whether certain unencapsulated beneficial uses should be prohibited.

Virginia DEQ opposes any prohibition of unencapsulated use of CCRs, as long as they can be proven to be genuine beneficial uses and not a veil for disposal. Broadly restricting a category of potential beneficial use based on a few incidences of mismanagement goes against the ideas of innovation credited to waste reduction initiatives put in place by many states. Such prohibitions of usage should be left to each state, where factors such as precipitation, soil chemistry, and CCR composition can be evaluated by regulatory staff knowledgeable of those factors.

- Whether the Agency should promulgate standards allowing uses on the land, on a site specific basis, based on site specific risk assessments, taking into consideration the composition of CCRs, their leaching potential under the range of conditions under which the CCRs would be managed, and the context in which CCRs would be applied, such as location, volume, rate of application, and proximity to water.

Virginia DEQ supports any scientifically based standard that will be developed for the beneficial use program for the factors listed above to be used as a tool, not a regulatory mandate, to further ensure protection of human health and the environment.

- If materials characterization is required, what type of characterization is most appropriate? If the CCRs exceed the toxicity characteristic at pH levels different from the TCLP, should they be excluded from beneficial use? When are totals levels relevant?

The determination of what material characterization is most appropriate cannot be arbitrarily assigned. The circumstances of the intended beneficial use should dictate the proper characterization. For example, if a particular CCR was going to be used in conjunction with spent lime from municipal water treatment to stabilize a TCLP type soil in order to make it a non-hazardous waste then the TCLP test is an appropriate test. However, if our purpose is to limit and minimize risk to the human then TCLP is not the appropriate test and total concentration becomes relevant since the risk calculations are based on total concentration. The testing should be determined by the beneficial use proposed so that appropriate analysis can be utilized.

- Whether EPA should fully develop a leaching assessment tool in combination with the Draft SW-846 leaching test methods described in Section I. F. 2 and other tools (e.g., USEPA's *Industrial Waste Management Evaluation Model* (IWEM)) to aid prospective beneficial users in calculating potential release rates over a specified period of time for a range of management scenarios.

Virginia DEQ welcomes any guidance from EPA to be used as a tool to advance our regulations and guidance for the benefit of public health and the environment. The guidance would be a useful tool in evaluating the potential fate and transport of contaminants. If guidance is issued, its use should not be mandated by federal regulation. A leaching assessment tool would be of a great assistance to beneficial use programs.

- Historically, EPA has proposed or imposed conditions on other types of hazardous wastes used in a manner constituting disposal (e.g., maximum application rates and risk-based concentration limits for cement kiln dust used as a liming agent in agricultural applications (see 64 FR 45639; August 20, 1999); maximum allowable total concentrations for nonnutritive and toxic metals in zinc fertilizers produced from recycled hazardous secondary materials (see 67 FR 48393; July 24, 2002). Should EPA should establish standards, such as maximum/minimum thresholds, or rely on implementing states to impose CCR site-specific limits based on front-end characterization that ensures individual beneficial uses remain protective?

Virginia DEQ believes EPA should perform additional research and base its finding only on sound science and provide guidance to states to develop CCR site-specific limitations for any proposed beneficial use project.

- Whether there are incentives that could be provided that would increase the amount of CCRs that are beneficially used and comment on specific incentives that EPA could adopt that would further encourage the beneficial use of CCRs.

EPA's support of the beneficial use of CCRs is essential to the program's success. As EPA's resources eclipse that of a state's, EPA must take a mentoring role in supporting state efforts and providing guidance and tools necessary to carry out successful beneficial use programs for CCRs and other waste materials. Incentives can include recognition of innovations and allowing states to request funding for beneficial use programs, including pilot studies, through their cooperative agreements.

Stigma

The best approach to handle the stigma which may complicate CCR beneficial use is for CCRs not to be regulated as a hazardous waste under the authorities of RCRA Subtitle C. As discussed previously, there is no benefit to regulating CCRs as a "special" hazardous waste and, doing so will only cause viable and beneficial uses of this material to meet with unnecessary stigma with respect to public perception.

Today's Co-proposed Regulations

General

- Some commenters have suggested that EPA not promulgate any standards, whether they be RCRA subtitle C or D, but continue to rely on the states to regulate CCRs under their existing or new state authorities. The Agency solicits comment on such an approach, including how such an approach would be protective of human health and the environment.

Failure of the surface impoundment in December 2008 at TVA's Kingston Fossil Plant in Harriman, Tennessee appears to be a driving factor in EPA deciding to regulate CCRs. EPA's response has been to develop two proposals which both provide broad regulation of CCRs in surface impoundments and landfills.

Virginia DEQ has consistently opposed any regulation of CCRs as a hazardous waste, even as a "special" hazardous waste. In responding to the failure of the surface impoundment in TVA's Kingston Fossil Plant in Harriman, Tennessee, EPA made the decision to send the CCR to a solid waste landfill, not a hazardous waste landfill. This decision supports the position that CCR is not a hazardous waste. It is noted that damage cases have been documented due to the failure of surface impoundments and, therefore, it only makes sense that surface impoundments should have regulatory requirements to protect human health and the environment from the potential failure of these impoundments. DEQ supports further regulation of wet storage of CCR and storage impoundments that manage CCR. However, the dry handling of CCRs in landfills is an area where the states have much more expertise then EPA. States regularly permit and ensure compliance of the landfills operating within their borders. It is the states that should be allowed to regulate these facilities under their authorities or under a similar EPA approved permit program as is currently used for MSW landfills.

As part of our rulemaking process for amending our Coal Combustion Byproduct Regulations, the DEQ assembled an advisory panel of technical experts in the field of CCRs to review and provide options to strengthen Virginia's Coal Combustion Byproduct Regulations. The main driver noted was the issue of maintaining separation between CCRs and groundwater/surface water. This criteria was identified as an essential factor related to the risks associated with using CCRs as fill material. EPA should review the work that states have undertaken prior to determining if a regulatory approach is necessary. It is essential that any approach allow states flexibility to adopt regulations in their state to address specific criteria needed to protect their natural resources and their citizenry from any risks posed by the various types of CCR as well as the flexibility to tailor standards based on the type of CCR being used and the composition of the CCR.

RCRA Subtitle C Regulations

*Virginia DEQ is not providing any responses to the specific questions of this subsection as we do not support EPA's proposal to regulate CCRs under the authorities of RCRA Subtitle C. CCRs are **not** hazardous wastes and any proposal to regulate them as such is inconsistent with sound science and common sense. EPA is urged to fully consider the repercussions a RCRA Subtitle C regulation will present to not only the states, but to*

industry and to the people that rely on coal powered electricity. EPA can accomplish their desire to ensure protection of human health and the environment through other mechanisms, such as Subtitle D or guidance. These other options need to be utilized. EPA's concerns regarding their oversight ability should be addressed through the authorities of §7003 of RCRA or through other mechanisms including congressional action.

RCRA Subtitle D Regulations

- EPA broadly solicits comment on the approach of relying on certifications by independent registered professional hydrologists or engineers of the adequacy of actions taken at coal fired utilities to design and operate safe waste management systems.

Virginia currently regulates professional geologists and professional engineers through the Department of Professional and Occupational Regulation (DPOR). These individuals are already providing Virginia DEQ with similar certifications which are required to be submitted under either Virginia's Solid Waste Management Regulations for solid waste management facilities, including landfills, or the Coal Combustion Byproduct Regulations for siting of projects. Independent registered professional engineers or hydrologists are a necessary component of a successful program and the duties of the two professionals should be clearly spelled out as these types of professionals are not interchangeable.

- Additional information regarding the extent to which landfill capacity would be affected by applying the proposed subtitle D location restrictions to existing CCR landfills.

Requiring CCRs to be placed in industrial landfills would greatly reduce the lifespan of permitted industrial landfills in Virginia. Virginia DEQ is unaware of the amount of CCRs that are generated within the state annually, mainly because of the successes of reuse and recycling programs that occur under provisions of beneficial use. Most recent estimates indicate that Virginia has available capacity at non-captive industrial landfills for approximately 13 million tons of industrial waste. In reality industrial landfills handle many types of waste streams and the remaining lifespan of these landfills would be significantly reduced if CCRs are required to be disposed at these facilities. There are currently only two permitted non-captive industrial landfills in Virginia and Virginia DEQ is unable to estimate if these two facilities would be capable of managing the additional waste material if CCRs were required to be placed in these landfills. There would likely be an increase in the number of captive landfills operating in Virginia, which would require an increase in the resources needed to oversee these landfills because the standards CCR landfills would be required to meet under this proposal are similar to existing Municipal Solid Waste and Industrial landfill standards.

- Whether the subtitle D option, if promulgated, should allow facilities to use alternative designs for new disposal units, so long as the owner or operator of a unit could obtain certification from an independent registered professional engineer or hydrologist that the alternative design would ensure that the appropriate concentration values for a set of constituents typical of CCRs will not be exceeded in the uppermost

aquifer at the relevant point of compliance (i.e., 150 meters from the unit boundary down gradient from the unit, or the property boundary if the point of compliance is beyond the property boundary).

Virginia DEQ concurs that the Subtitle D option must provide flexibility in the design of new disposal units and provide performance standards to be met, such as the one noted in this comment. This is the only way to accommodate changes in technology which occur faster than EPA modifies their regulations.

- Whether there could be homeland security implications with the requirement to post information on an internet site and whether posting certain information on the internet may duplicate information that is already available to the public through the state.

If states were required to adopt regulations under the Subtitle D option, Virginia DEQ would likely adopt standards similar to those in place for municipal solid waste landfills and industrial waste landfills. This would include the issuance of a permit to a CCR landfill. The information reviewed by Virginia DEQ prior to issuing a permit would be information that would be available to the public from DEQ. Requiring a facility to post information on a website would duplicate information already available to the public from DEQ. Virginia statute contains provisions that protect trade secret information from being released to the public.

- Whether the subtitle "D prime" option is protective of human health and the environment.

The "D prime" option allows surface impoundments to continue to operate for their useful life without requiring them to install composite liners. Virginia DEQ is concerned about allowing unlined surface impoundments to continue to operate without an established closure date. When the Subtitle D regulations were issued by EPA, not all landfills in Virginia were equipped with liners. In 1993, state statutes were amended to allow landfills to continue to operate until their vertical design capacity was reached and required landfills to submit an estimated date of closure which was not enforceable by the state. After many years of the continued operation of these unlined landfills, some of these landfills were anticipating continuing operation for decades instead of their previously estimated closure date. The state statute was subsequently amended in 2000 to establish a process for assigning closure dates to these unlined landfills. Unlined landfills were prioritized for closure based on potential threat to human health and the environment, and required to close in 2007, 2012, or 2020. Virginia DEQ's previous experience with allowing unlined landfills to continue operation until vertical capacity was reached causes the state to have concerns with the "D prime" option. EPA's proposal indicates 75% of surface impoundments are greater than 25 years old, with 10% being greater than 50 years. Allowing unlined surface impoundments to continue operation indefinitely does not provide protection to human health and the environment.

- EPA is proposing that existing CCR landfills and surface impoundments that cannot make a showing that a CCR landfill or surface impoundment can be operated safely in a floodplain or unstable area must close within five years after the effective date of the rule. EPA solicits comment on the appropriate amount of time necessary to meet

this requirement, as well as measures that could help to address the potential for inadequate disposal capacity.

Five years is the minimum amount of time for Virginia DEQ to implement the rulemaking process to amend our regulations, receive permit applications, review permit applications for new CCR landfills that meet the standards of the Subtitle D proposal, and issue permits for these landfills. EPA would have to commit staff to approve the CCR permit program, however, if the MSW program is to be utilized as a model. Approvals of state permit programs would need to be completed within 18 months after the effective date of the rule so that adequate time can be allowed for the permit application process.

With respect to the Subtitle C option, however, five years is insufficient time for the state to initiate a rulemaking process, submit an authorization package, gain approval for a Subtitle C delegation of the program, and review permit application and issue permits for landfills meeting hazardous waste standards. The timeline is further complicated as our statutory law prohibits issuance of any off site hazardous waste facility permit without first securing a certificate of siting which is a very complex process and could potentially take years to secure the certificate.

Surface Impoundment Closeout

- Whether the Agency should provide for a variance process allowing some surface impoundments that manage wet-handled CCRs to remain in operation because they present minimal risk to groundwater (e.g., because they have a composite liner) and minimal risk of a catastrophic release (e.g., as indicated by a low or less than low potential hazard rating under the Federal Guidelines for Dam Safety established by the Federal Emergency Management Agency).

This approach is reasonable for low risk surface impoundments and should be allowed under the proposals.

Financial Assurance

- EPA broadly solicits comments on whether financial assurance should be a key program element under a subtitle D approach, if the decision is made to promulgate regulations under RCRA subtitle D.

Virginia DEQ has had financial assurance requirements in effect since 1988 for all solid waste landfills, including industrial landfills. The financial assurance requirements address closure, post-closure care, groundwater monitoring, and corrective action. Due to the similarity of the proposed CCR landfills to municipal solid waste and industrial landfills, financial assurance provisions should be adopted if the Subtitle D approach is undertaken. Failure to adopt financial assurance requirements would not be in the best interests of the states. If a facility was abandoned then states could become liable for the costs of closure, post-closure, and/or corrective action.

State Programs

- Detailed information on current and past individual state regulatory and non-regulatory approaches taken to ensure the safe management of CCRs, not only under state waste authorities, but under other authorities as well, including the implementation of those approaches.

Please refer to the "Summary of CCR Management in Virginia" section of this attachment (see next section).

- The potential of federal regulations to cause disruption to states' implementation of CCR regulatory programs under their own authorities, including more specifics on the potential for procedural difficulties for state programs, and measures that EPA might adopt to try to mitigate these effects.

Subtitle C option: *Due to Virginia's rulemaking process, it is our experience that it may take two years to amend our hazardous waste regulations and even longer to receive EPA authorization to implement these rules in lieu of EPA's implementation of the program. Previously, it took EPA approximately 16 years to authorize Virginia DEQ's Hazardous Waste Corrective Action program. EPA's estimate of one to two years for states to adopt the rule and receive authorization for its implementation is unrealistic. This delay in authorization approvals is an issue that has plagued EPA in the past, and as EPA will be working to authorize a large number of different state programs concurrently, it is likely that this will be a very slow process for program authorization. Until the regulations are amended and federal authorization is obtained, Virginia DEQ will be unable to implement a Subtitle C CCR regulatory program. Funding for this new/expanded program will also be a barrier to implementing this program. Therefore, funding support and additional time will be needed to implement this program.*

Subtitle D option: *Under the Subtitle D proposal, the minimum federal criteria would take effect within 180 days after promulgation of the final rule. Virginia DEQ would likely need to undertake a rulemaking to revise our regulations for CCR landfill requirements and surface impoundments to be consistent with EPA's promulgated regulatory requirements. While EPA's minimum Subtitle D standards include many self-regulating provisions, Virginia DEQ would likely implement and oversee these facilities directly through regulation as we do for the municipal solid waste landfill provisions under 40 CFR 258. In general, the full regulatory process in Virginia takes almost two years to complete and, therefore, Virginia DEQ would need additional time to incorporate these requirements into current regulations before a CCR program could be implemented. Funding for this expanded CCR program will also be a barrier to implementation, as Virginia DEQ has had numerous budget cuts in the last few years. Federal funding for this program and more time to allow the states to undertake regulatory action and to implement the program will be necessary.*

Damage Cases

- The report of additional damage cases submitted to EPA on February 24, 2010 by the Environmental Integrity Project and EarthJustice.

While there were no Virginia sites listed in the February 2010 report, two Virginia sites were discussed in the report, In Harm's Way (August 2010). This report discussed historical releases from storage ponds into adjacent rivers from the American Electric Power's Clinch River Plant (1967) and the Glen Lyn plant (1970's and early 1980's). It should be noted that these are not recent cases and are legacy issues which are not an accurate picture of Virginia's current regulatory programs.

Summary of CCR Management in Virginia

Virginia DEQ has undertaken numerous steps over the years to protect human health and the environment from Coal Combustion Residuals (CCRs). Virginia DEQ regulates CCRs as an industrial solid waste under two separate regulations; the Virginia Solid Waste Management Regulations, 9 VAC 20-80, for management of non-hazardous solid wastes and the Coal Combustion Byproduct Regulations, 9 VAC 20-85, for the beneficial use of coal combustion byproducts. Both our municipal solid waste landfills and industrial landfills may be permitted to dispose of CCRs; however, most CCRs which are disposed of are managed by captive industrial landfills. Both of these types of landfills have liners and leachate collection systems, and groundwater monitoring is conducted at these facilities. Additionally, CCRs may also be beneficially used in products or as structural fill material if certain standards are met for conditional exemptions. In accordance with the requirements of the Coal Combustion Byproduct Regulations, CCRs may also be used, reused, or reclaimed in a manner not addressed under the Virginia Solid Waste Management Regulations.

The Virginia Waste Management Board adopted the existing industrial waste landfill regulations in 1988 and since then, there has never been an incident where an environmental release, from any of the landfills designed and constructed in accordance with these regulations has adversely impacted the environment. It is clear from this that any increase in regulation, such as the proposal under RCRA Subtitle C, will not yield any significant environmental benefit. We believe human health and the environment have been adequately protected by the solid waste laws and regulations that are presently in place in Virginia for the management of industrial wastes like CCRs.

In Virginia, a company applying for a permit to operate an industrial solid waste landfill must provide the Virginia DEQ with comprehensive engineered design plans, site geological and hydrogeologic information, a groundwater monitoring plan, a demonstration of financial assurance for closure and post-closure care, an operating plan, and other required permit application documents. Additionally, the third party construction quality assurance must be submitted with quality assurance and quality control documents that ensure the units have been constructed in accordance with approved engineering plans. Our permitting process also includes a public participation process consisting of a comment period and a public hearing as needed or when requested.

In addition to the high degree of regulatory requirements and oversight by our solid waste permitting program, DEQ also routinely inspects solid waste management facilities. DEQ's routine inspection frequency for solid waste landfills is quarterly. During inspections, waste management practices are evaluated with respect to applicable regulations and permit conditions and the integrity of the containment systems is visually examined. On an as needed basis, DEQ’s solid waste permit engineers also visit these facilities to assess compliance related to design, construction, operations, and monitoring.

Historical information shows that Virginia has had no known cases of proven environmental damage from any permitted industrial landfills managing CCRs. Virginia's regulatory process for management of CCR in landfills is comprehensive and provides adequate protection of human health and environment. The regulatory requirements will continue to require sound engineering design, construction quality assurance, operations, groundwater quality monitoring, engineered closure, post-closure care, and financial assurance to cover cost of closure, post-closure care, and corrective action for these facilities.

In Virginia, CCRs may also be used, reused, or reclaimed in a manner not addressed under Virginia's solid waste regulations when such use, reuse or reclamation is performed in accordance with the requirements of the Coal Combustion Byproduct Regulations. Administrative procedures are provided for the submission of appropriate documentation and professional engineering certification for the use of CCRs in this manner. This regulation establishes appropriate standards for siting, design, construction, operation, and closure of projects using CCR. If CCR is to be used beneficially as a fill material in Virginia, the following information must be provided to be reviewed by agency staff:

- A certification that the owner or operator has legal control over the site for the project life and the closure period;
- A certification from the governing body of the county, city, or town in which the site is to be located that the location and operation of the site are consistent with all applicable ordinances;
- A general description of the intended use, reuse, or reclamation of CCR that includes the following:
    - A description of the nature, purpose and location of the CCR site, including a topographic map showing the site area and available soils, and geological maps. The description shall include an explanation of how CCR will be stored prior to use, reuse or reclamation, if applicable;
    - The estimated beginning and ending dates for the operation;
    - An estimate of the volume of the CCR to be utilized; and
    - A description of the proposed type of CCR to be used reused or reclaimed, including physical and chemical characteristics of the CCR.
- A certification by a professional engineer licensed to practice by the Commonwealth that the project meets the location restrictions and setback requirements of the regulations;
- A certificate signed by a professional engineer licensed to practice by the Commonwealth that the project has been designed in accordance with the standards of the regulations;
- An operational plan;
- A closure plan; and
- A signed statement that the owner or operator shall allow authorized representatives of the Commonwealth, upon presentation of appropriate credentials, to have access to areas in which the activities covered by this chapter will be, are being, or have been conducted to ensure compliance.

Staff review the information submitted to ensure that the established regulatory standards are being met. Since Virginia originally adopted the Coal Combustion Byproduct Regulations in 1995, approximately 5.5 million cubic yards of CCRs have been used beneficially as fill material under these regulations.

The beneficial reuse of CCRs as fill material for construction of the Battlefield Golf Club was identified by EPA as a concern in many sections of its proposal. Virginia DEQ does not consider EPA's discussion to be a fair representation of this issue and requests that EPA refer to its own update on this site (see April 2010 Battlefield Golf Club Community Update). The results stated in this update are:

- EPA's review of the data indicates that metals are not migrating from the fly ash on the golf course to the residential drinking water wells.
- Metals contaminants were below EPA drinking water standards in all residential wells that EPA tested, except for lead. Lead has been detected above the drinking water standard in several residential wells, but the lead does not appear to be from the fly ash.
- EPA concludes that people can use the golf course without concern. The metal concentrations in the surface water and sediments on the golf course are below standards set for drinking water and soil.
- Based on the data EPA reviewed, there is no current evidence that there is a threat to the public or the environment from the fly ash at the golf course. At this time EPA has no further plan to pursue listing this site on the NPL.

As EPA's own conclusions do not indicate harm from this site, Virginia DEQ respectfully disagrees with EPA's presentation of this issue in the proposal and requests that the situation of the Battlefield Golf Club not be used to mistakenly assume problems with Virginia's CCR management program when in fact EPA's own data and conclusions do not support that assumption. Virginia DEQ is very proud of the success of its beneficial use program for CCRs and other solid wastes, and has worked diligently to ensure that success while protecting human health and the environment.

Due to Virginia's comprehensive regulatory program for management of solid waste CCRs, EPA is urged to reconsider their proposal for regulation of CCRs. Our permit program for industrial landfills is analogous to our EPA approved MSW permit program; justifying why further constraints, such as those proposed by EPA, are unnecessary. Additionally, Virginia's beneficial use program has been recognized by the Green Highways Projects and others for its innovative ways in dealing with CCRs and other high volume waste streams. If pursued, EPA's proposal, especially the Subtitle C option, will only hamper Virginia DEQ's efforts as we strive to meet the challenges of resource recovery by reducing the amount of waste managed through use, reuse and recycling.